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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,593	10/06/2003	Deshanand Singh	ALT.P024	5948

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EXAMINER
TAT, BINH C

ART UNIT	PAPER NUMBER
2825	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	**Application No.** 10/679,593	**Applicant(s)** SINGH ET AL.	
	Examiner BINH C. TAT	**Art Unit** 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 0915*.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-9,26-32 and 34-40* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-5,7-9,26-32 and 34-40* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *06 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is a response to the amendment filed on 09/15/08. The applicant argument regarding Petranovic et al. are not persuasive; therefore, all the rejections based on Petranovic et al. are retained and repeated for the following reasons.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-5, 7-9, and 26-32, and 34-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Petranovic et al. (US Patent 6109201).

2. As to claims 1, 26, 35, 39 and 40 Petranovic et al. teach a method for designing a system on a target device utilizing field programmable gate arrays (FPGA), comprising: identifying a group of components associated with a critical signal in the system (see fig 1a, 1b, col 2 line 15 to col 4 line 3, especially col 3 line 20 to col 4 line 3, and col 5 line 3-21); creating a first copy (fig 4 element 62) and a second copy (see fig 4 element 64) of the group of components where the first copy is driven by a first signal at a first state and the second copy is driven by a second signal at a second state (see fig 3-5, col 5 line 23 to col 6 line 48; especially fig 4 element 62, 64, and 66 col 6 line 20-29, and summary); configuring the system utilize a selector circuit on the target device to select an output of one of the first copy and the second copy in response to the critical signal (see fig 3, fig 4, fig 5 col 5 line 41 to col 6 line 68; especially fig 5 element 68 col 5 line 46 to col 6 line 47); and removing the group of components identified such that only the

first copy and the second copy of the group of components represent the group of components identified (see fig 2-5 col 5 line 3 to col 8 line 42).

3. As to claims 2, and 27 Petranovic et al. teach wherein identifying the group of components associated with the critical signal in the system comprises determining a transitive fanout for the critical signal (see fig 2, fig 4 col 5 line 3 to col 6 line 19).

4. As to claims 3, and 28 Petranovic et al. teach wherein determining the transitive fanout for the critical signal comprises identifying the transitive fanout within a maximum number of logic levels (see fig 2, fig 4 col 5 line 3 to col 6 line 19, and background).

5. As to claims 4, and 29 Petranovic et al. teach further comprising: identifying side inputs to the transitive fanout (see fig 2-5 col 5 line 14 to col 8 line 48); and determining whether the side inputs have sufficient slack (see fig 2-5 col 5 line 14 to col 8 line 48).

6. As to claims 5 and 30 Petranovic et al. teach further comprising providing connections from side inputs in the system to components in each of the first copy and second copy (see fig 4 and fig 5 col 5 line 41 to col 6 line 29).

7. As to claims 7 and 32 Petranovic et al. teach further comprising determining the critical signal by performing a critical path traceback procedure (see fig 2, fig 4, fig 5 col 5 line 3-21 and col 5 line 41 to col 6 line 18).

8. As to claims 8, 33, and 36 Petranovic et al. teach further comprising determining appropriate placement of the first copy and the second copy on the target device using an incremental placement technique to resolve illegalities in placement by moving components not associated with the critical signal to allow the first copy and the second copy to be placed at preferred locations (see fig 4, fig 5 col 5 line 30 to col 6 line 47).

9. As to claims 9 and 34 Petranovic et al. teach further comprising: determining a transitive fanout for a signal identified as being next most critical for the system (see fig 4, fig 5 col 5 line 30-40); creating a first copy and second copy of a group of components associated with the transtive fanout for the signal identified as being next most critical for the system (see fig 3, fig 4 and fig 5 col 5 line 22 to col 6 line 42, and summary); and configuring the system to select an output of one of the first copy and the second copy of the group of components associated with the transitive fanout in response to the signal identified as being next most critical for the system (see fig 3, fig 4, fig 5 col 5 line 41 to col 6 line 68; especially fig 5 element 68 col 5 line 46 to col 6 line 47).

10. As to claims 37 and 38 Petranovic et al. teach wherein identifying the group of components comprises: determining a transitive fanout for the critical signal (see fig 2, fig 4 col 5 line 3 to col 6 line 19); identifying side inputs to the transitive fanout (see fig 2-5 col 5 line 14 to col 8 line 48); and designating components in the transitive fanout as the group of components if the side inputs have slack greater than an amount of delay introduced by the selector circuit (see fig 3, fig 4 and fig 5 col 5 line 22 to col 6 line 42, and summary).

Remarks

Applicant's response and remarks filed on 09/15/08 have been carefully review. Applicant's arguments have been fully considered but they are not persuasive. Key argument and their response related to the claims are listed as below:

Applicant contends that Petranovic et al. do not describe "identifying a group of components associated with a critical signal in the system" probes as claimed, Examiner respectfully disagrees. The prior art (Petranovic et al. US pattern 6109201) do teach "identifying a group of components associated with a critical signal in the system (see fig 1a, 1b, col 2 line 15 to col 4 line 3, especially, Petranovic et al. teach identifying a group of components associated with a critical signal in the system in col 3 line 20 to col 4 line 3, and col 5 line 3-21).

Applicant contends that Petranovic et al. do not describe "creating a first copy and a second copy of the group of components where the first copy is driven by a first signal at a first state and the second copy is driven by a second signal at a second state" probes as claimed, Examiner respectfully disagrees. The prior art (Petranovic et al. US pattern 6109201) do teach creating a first copy (fig 4 element 62) and a second copy (see fig 4 element 64) of the group of components where the first copy is driven by a first signal at a first state and the second copy is driven by a second signal at a second state (see fig 3-5, col 5 line 23 to col 6 line 48; especially fig 4 element 62, 64, and 66 col 6 line 20-29, and summary). For this reason, examiner holds the rejection proper.

Applicant contends that Petranovic et al. do not describe "configuring the system utilize a selector circuit on the target device to select an output of one of the first copy and the second copy in response to the critical signal" probes as claimed, Examiner respectfully disagrees. The prior art (Petranovic et al. US pattern 6109201) do teach configuring the system utilize a selector circuit on the target device to select an output of one of the first copy and the second copy in response to the critical signal (see fig 3, fig 4, fig 5 col 5 line 41 to col 6 line 68; especially fig 5 element 68 col 5 line 46 to col 6 line 47). For this reason, examiner holds the rejection proper.

Applicant contends that Petranovic et al. do not describe "removing the group of components identified such that only the first copy and the second copy of the group of components represent the group of components identified" probes as claimed, Examiner respectfully disagrees. The prior art (Petranovic et al. US pattern 6109201) do teach removing the group of components identified such that only the first copy and the second copy of the group of components represent the group of components identified (see fig 2-5 col 5 line 3 to col 8 line 42). For this reason, examiner holds the rejection proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh C. Tat whose telephone number is 571 272-1908. The examiner can normally be reached on 7:30 - 4:00 (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Binh Tat
Art unit 2825

/THUAN DO/

Primary Examiner, Art Unit 2825